IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: §
     Quinn, Liam B. et al §
 §   Confirmation No.: 2497
Serial No. 09/768,072 §
 §   Group Art Unit: 2618
Filed: January 23, 2001 §
 §   Examiner: Pan, Yuwen
For: WIRELESS ANTENNA SWITCHING §
     SYSTEM §

APPEAL BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

     This Brief is submitted in connection with an appeal from the final rejection of the Examiner, dated August 4, 2006, finally rejecting claims 1-5, 8-13, 15, 17 and 19-21, all of the pending claims in this application.

REAL PARTY IN INTEREST

     The real party in interest is Dell Products L.P., a Texas Limited Partnership, having a principal place of business at One Dell Way, Round Rock, Texas 78661, United States of America.

RELATED APPEALS AND INTERFERENCES

     There are no related appeals or interferences regarding the above-identified patent application.

STATUS OF CLAIMS

     Claims 1-5, 8-13, 15, 17 and 19-21 are pending, stand finally rejected, and are on appeal here. Claims 6, 7, 14, 16 and 18 have been canceled. Claims 1-5, 8-13, 15, 17 and 19-21 are set forth in the CLAIMS APPENDIX attached hereto.

STATUS OF AMENDMENTS

No amendments were made to the claims after the mailing of the final Office action dated August 4, 2006.

SUMMARY OF CLAIMED SUBJECT MATTER

One embodiment of the present invention, as now set forth in independent claim 1, relates to a portable computing system with selectable transceiver switching. The system comprises a set of one or more transceivers, wherein each of the transceivers utilizes a unique communication protocol (Fig. 2, transceivers 210, 215, 220; page 6, lines 13-23). The system further includes a switch capable of differentiating communication signals and prioritized choosing, based on one of power being used to transmit and power being received on a particular channel, of an appropriate transceiver from the set of transceivers to communicate for the computing system (Fig. 2, selector 225; page 6, lines 25-27; page 7, line 15 through page 9, line 22). The switch interfaces with a system stack for controlling the interface to multiple types of the transceivers via an operating system (Fig. 2, system stack (application 250, protocol stack 255, client middleware 260, software drive 265); page 9, line 22 through page 1, line 2). The system further includes a connector connecting an antenna system to the switch for communicating with the one or more transceivers (Fig. 2, antenna system (antennas 235, 24, 245) and connector 230; page 7, lines 8-9), whereby power related switching is controlled between the one or more transceivers and the antenna system (page 7, line 23 through page 8, line 21), the antenna system being integrated into a chassis of the portable computing system and the transceivers and switch being integrated into a circuit card and coupled to a system board of the portable computer system, the circuit card being connected to a communication jack (Figs. 4A and 4B, card 410, stacking connector 425, system board 405, connector 415; Fig. 4C, card 410, system board 405, connector 430, circuit 420, connector 415, SO-DIMM connector 430; page 11, lines 15-18; page 11, line 27 through page 13, line 3).

Another embodiment of the present invention, as now set forth in independent claim 15, relates to a method of switching between a set of one or more transceivers within a portable computer system. The method includes providing a set of one or more transceivers, each transceiver including a unique communication protocol (Fig. 2, transceivers 210, 215, 220; page 6, lines 13-23). The method further includes providing a switch capable of differentiating

communication signals and prioritized choosing, based on one of power being used to transmit, and power being received on a particular channel of an appropriate transceiver from the set of transceivers to communicate with the computing system (Fig. 2, selector 225; page 6, lines 25-27; page 7, line 15 through page 9, line 22). Additionally, the method includes interfacing the switch with a system stack for controlling the interface to multiple types of the transceivers via an operating system (Fig. 2, system stack (application 250, protocol stack 255, client middleware 260, software drive 265); page 9, line 22 through page 1, line 2). The method still further includes providing a connector connecting an antenna system to the switch for communicating with the one or more transceivers (Fig. 2, antenna system (antennas 235, 24, 245) and connector 230; page 7, lines 8-9), whereby power related switching is controlled between the one or more transceivers and the antenna system (page 7, line 23 through page 8, line 21). The antenna system is integrated into a chassis of the portable computing system and the transceivers and switch are integrated into a circuit card and coupled to a system board of the portable computer system (Figs. 4A and 4B, card 410, stacking connector 425, system board 405; Fig. 4C, card 410, system board 405, connector 430, SO-DIMM connector 430; page 11, lines 15-18; page 11, line 27 through page 13, line 3). The circuit card is connected to a communication jack (Figs. 4A and 4B, connector 415; Fig. 4C, connector 415 and circuit 420; page 12, lines 1-10, lines 12-19, lines 24-27).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1, 2, 4, 8-13, 15, 17 and 19-21 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 6,560,443 to Vaisanen et al (hereinafter "Vaisanen") in view of U.S. Patent No. 5,884,189 to Yamazaki et al (hereinafter "Yamazaki") and further in view of U.S. Patent No. 6,577,500 to Paredes et al (hereinafter "Paredes"), according to the Final Office Action dated August 4, 2006.

Whether claims 3 and 5-7 are unpatentable under 35 U.S.C. §103(a) over Vaisanen and Yamazaki, as applied to claim 1, and further in view of U.S. Patent No. 6,249,686 to Dvorkin et al (hereinafter "Dvorkin"), according to the Final Office Action dated August 4, 2006.

ARGUMENT

As detailed below, Applicant believes that the Examiner has improperly applied the combination of the Vaisanen, Yamazaki, and Paredes references to independent claims 1 and

15. More specifically, it is Applicant's belief that the cited combination of references is defective in establishing a *prima facie* case of obviousness with respect to each of claims 1 and 15.

I. Rejection under 35 U.S.C. §103(a)

Applicant traverses the Examiner's rejection of the independent claims on the following grounds: (1) the cited references do not teach or suggest the claimed subject matter and (2) the cited references are not properly combinable.

A. The cited references do not teach or suggest the claimed subject matter

1. Independent claim 1

Independent claim 1 recites, in part,

a switch capable of differentiating communication signals and **prioritized** choosing, **based on one of power being used to transmit, and power being received on a particular channel** of an appropriate transceiver from the set of transceivers to communicate for the computing system (emphasis added).

In paragraph 3 of the Final Office action dated August 4, 2006, the Examiner states, in connection with claim 1, that "Vaisanen discloses...a switch capable of differentiating communication signals and determining and choosing an appropriate transceiver from the set of transceivers to communicate for the computing system (see figure 1, column 6 and lines 36-53)." Notably, the Examiner fails to address the limitations of claim 1 reproduced above in boldface type; namely, prioritized choosing based on one of power being used to transmit and power being received on a particular channel. The cited portion of the text of Vaisanen (column 6, lines 36-53) states:

FIG. 1 illustrates the principle of the present invention in accordance with a first embodiment of the present invention in which 10 represents as mobile terminal such as a mobile (cellular) phone having a dual antenna, dual transceiver arrangement which can be, for example, an IP-based WLAN/Bluetooth hand-held terminal. The basic idea is to switch one of the two WLAN diversity antennae ANT1 and ANT2 for BT (Bluetooth) use, when BT needs to be functional. In general, BT connection is effected when the hand-held terminal is located outside the available coverage of WLAN. As the WLAN radio communication is the preferred method, WLAN coverage of an AP (access point) can be constantly monitored, while the BT radio (BT module) 12 is in use. Simultaneous operation is limited to the receive (rx) mode of the WLAN radio (WLAN module) 11 when the BT radio (BT module) 12 is operational, either in the receive (rx) or the transmit (tx) mode, in order to protect the BT transceiver from permanent damage.

Vaisanen clearly fails to teach or suggest the claimed limitations. There is absolutely no mention or teaching in the cited portion of Vaisanen of any sort of "prioritized choosing", which feature finds support in Applicants' specification at least at page 9, lines 11-16.

Moreover, the Examiner points neither to Yamazaki, which is cited as teaching that software is installed in the control unit for controlling the wireless transceiver, the software controlled unit responding for adapting to different communication protocols, nor to Paredes, which is cited as teaching a wireless PC card with integrated RJ-type connector, as remedying the deficiencies of Vaisanen in this regard.

In view of the foregoing, it is apparent that the Examiner has failed to meet his burden of establishing a *prima facie* case of obviousness of claim 1 in view of Vaisanen, Yamazaki and Paredes. As a result, it is submitted that the rejection of claim 1 under 35 U.S.C. §103(a) is not supported by the cited references and should therefore be withdrawn.

2. Independent claim 15

Independent claim 15 recites, in part:

providing a switch capable of differentiating communication signals and **prioritized** choosing, **based on one of power being used to transmit, and power being received on a particular channel** of an appropriate transceiver from the set of transceivers to communicate for the computing system; (emphasis added).

Clearly, as claim 15 contains limitations similar to those of claim 1 and stands rejected for exactly the same reasons as that claim, claim 15 is allowable for at least the same reasons set forth in detail above with reference to claim 1.

In view of the foregoing, it is apparent that the Examiner has failed to meet his burden of establishing a *prima facie* case of obviousness of claim 15 in view of Vaisanen, Yamazaki and Paredes. As a result, it is submitted that the rejection of claim 15 under 35 U.S.C. §103(a) is not supported by the cited references and should therefore be withdrawn.

B. The references are not properly combinable

§ 2142 of the MPEP provides:

the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made. . . . The examiner must put aside knowledge of the

applicant's disclosure, refrain from using hindsight, and consider the subject matter claimed 'as a whole'.

In the present case, none of the cited references teaches or even suggests the desirability of the combination of the teachings therein as specified above and as recited in claims 1 and 15. Thus, it is clear that none of the patents provides any incentive or motivation supporting the desirability of the combination. Therefore, there is simply no basis in the art for combining the references to support a 35 U.S.C. §103 rejection.

In this context, the MPEP further provides at § 2143.01:

> The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In the above context, the courts have repeatedly held that obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination.

In the present case it is clear that the Examiner's combinations arise solely from hindsight based on the invention without any showing, suggestion, incentive or motivation in either reference for the combination as applied to claims 1 and 15. Therefore, for this mutually exclusive reason, the Examiner's burden of factually supporting a *prima facie* case of obviousness with respect to claims 1 and 15 has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

C. Dependent claims 2-5, 8-13, 17 and 19-21

Dependent claims 2-5 and 8-13 depend from and further limit independent claim 1 and are therefore allowable for at least the same reasons as claim 1.

Dependent claims 17 and 19-21 depend from and further limit independent claim 15 and are therefore allowable for at least the same reasons as claim 15.

II. Conclusion

Accordingly, it is respectfully submitted that the claims are fully supported by the specification and that the various combinations of references fail to teach or suggest the subject matter of claims 1-5, 8-13, 15, 17 and 19-21. For all of the foregoing reasons, it is respectfully
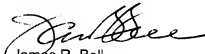
submitted that claims 1-5, 8-13, 15, 17 and 19-21 be allowed and a prompt notice to that effect is earnestly solicited.

Respectfully submitted,

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          Susan C. Lien
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CLAIMS APPENDIX

1.   (Previously Presented)   A portable computing system with selectable transceiver switching comprising:

a set of one or more transceivers, each of the transceivers with a unique communication protocol;

a switch capable of differentiating communication signals and prioritized choosing, based on one of power being used to transmit, and power being received on a particular channel of an appropriate transceiver from the set of transceivers to communicate for the computing system;

the switch interfacing with a system stack for controlling the interface to multiple types of the transceivers via an operating system; and

a connector connecting an antenna system to the switch for communicating with the one or more transceivers, whereby power related switching is controlled between the one or more transceivers and the antenna system, the antenna system being integrated into a chassis of the portable computing system and the transceivers and switch being integrated into a circuit card and coupled to a system board of the portable computer system, the circuit card being connected to a communication jack.

2.   (Original) The portable computing system of claim 1 wherein the switch is a zener diode that differentiates upon power transmission.

3.   (Original) The portable computer system of claim 1 wherein the switch is an active power sensor device.

4.   (Original) The portable computer system of claim 1 wherein the switch is a current limiter device.

5.   (Original) The portable computer system of claim 1 further comprising:

a lookup table that associates transmission power with each of the transceivers, whereby the switch selects a transceiver from the set of transceivers when a certain power state in the lookup table is detected.

6.   (Canceled).

7.   (Canceled).

8.   (Original) The portable computer system of claim 1 further comprising:

        a software driver that interfaces to the transceiver and interfaces to an operating system of the portable computer system, whereby the software driver receives instructions as to which transceiver of the set of transceivers to select.

9.   (Original) The portable computer system of claim 8 wherein the software driver receives instructions from a higher level protocol stack of the portable computer system.

10.   (Original) The portable computer system of claim 8 wherein the software driver receives instructions from a set of software applications of the portable computer system.

11.   (Original) The portable computer system of claim 1 wherein the set of transceivers and the switch are integrated into a circuit card.

12.   (Previously Presented) The portable computer system of claim 11 wherein the circuit card connects to a system board of the portable computer system.

13.   (Previously Presented) The portable computer system of claim 11 wherein the circuit card is a Mini PCI card.

14.   (Canceled).

15.   (Previously Presented) A method of switching between a set of one or more transceivers within a portable computer system comprising:

        providing a set of one or more transceivers, each transceiver including a unique communication protocol;

        providing a switch capable of differentiating communication signals and prioritized choosing, based on one of power being used to transmit, and power being

received on a particular channel of an appropriate transceiver from the set of transceivers to communicate for the computing system;

interfacing the switch with a system stack for controlling the interface to multiple types of the transceivers via an operating system; and

providing a connector connecting an antenna system to the switch for communicating with the one or more transceivers, whereby power related switching is controlled between the one or more transceivers and the antenna system, the antenna system being integrated into a chassis of the portable computing system and the transceivers and switch being integrated into a circuit card and coupled to a system board of the portable computer system, the circuit card being connected to a communication jack.

16.   (Canceled).

17.   (Previously Presented)   The method of switching between a set of one or more transceivers within a portable computing system of claim 15 wherein:

the software driver is instructed by a higher level protocol stack.

18.   (Canceled).

19.   (Previously Presented)   The method of switching between a set of one or more transceivers within a portable computing system of claim 15 wherein:

the portable computing system is in a casing and the antenna is integrated into the casing.

20.   (Original) The method of switching between a set of one or more transceivers within a portable computing system of claim 19 wherein:

the software driver is instructed by a higher level protocol stack.

21.   (Original) The method of switching between a set of one or more transceivers within a portable computing system of claim 19 wherein:

the software driver is instructed by a set of software applications of the portable computer system.

<u>EVIDENCE APPENDIX</u>

Not applicable to current appeal

RELATED PROCEEDINGS APPENDIX

Not applicable to current appeal